



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/334,974	06/17/99	FOSTER	D 115-3189-U
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EXAMINER

CANTELMO, G

ART UNIT

PAPER NUMBER

1753

DATE MAILED:

05/16/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademark

Office Action Summary

Application No.
09/334,974

Applicant(s)
Foster et al.

Examiner
Gregg Cantelmo

Group Art Unit
1753



☒ Responsive to communication(s) filed on Mar 28, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1, 2, 4, 5, 7-24, 26-36, and 55-63 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 2, 4, 5, 7-24, 26-36, and 55-63 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 1753

DETAILED ACTION

Response to Amendment

1. In response to the amendment received on March 28, 2000:
 - a. The 112 first and second paragraph rejections presented in the previous office action are withdrawn;
 - b. The specification objection presented in the previous office action is withdrawn;
 - c. The 103(a) rejections presented in the previous office action stand;
 - d. The double patenting rejections presented in the previous office action are withdrawn.

Terminal Disclaimer

2. The terminal disclaimers filed on March 28, 2000 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. patent application serial No. 09/239,581 has been reviewed and is accepted. The terminal disclaimer has been recorded.
3. The terminal disclaimers filed on March 28, 2000 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. patent application serial No. 09/264,361 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Art Unit: 1753

4. The terminal disclaimer filed on March 28, 2000 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. patent No. 5,879,532 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 5,413,874 (Moysan '874) in view of European Patent Application No. 0 486 711 A1 (EP '711); all of record and for the reasons of record.

Moysan '874 is drawn to a process coating an article with a multilayer coating comprising a plated metal layer of a nickel alloy and a sputter deposited (i.e., physical vapor deposited (PVD)) refractory metal layer, preferably zirconium deposited on the nickel alloy (abstract and Example 1; as applied to instant claims 1-2, 4-5, and 21-24).

The article is comprised of a platable metal or metallic alloy substrate such as brass (col. 2, lines 9-12 as applied to instant claims 55 and 56). Although zinc is not disclosed, the skilled artisan would have found it obvious to use zinc as well since it is considered a type of platable metal (as applied to instant claim 57).

Art Unit: 1753

The article can be any type of material such as lamps, door knobs, door handles, door escutcheons, and so forth (col. 1, lines 13-16). The skilled artisan would have found it obvious to select the appropriate form of the article dependent upon the intended use of the substrate (as applied to instant claims 59-63).

A refractory metal compound selected from nitrides is also deposited and by example is zirconium nitride (paragraph bridging columns 7 and 8 as applied to instant claims 6-9, 26-28).

The difference between the instant claims and Moysan '874 is that Moysan '874 fails to explicitly disclose of a step of subjecting the plated layer to pulses of air to dry the article surface (instant claim 1).

EP '711 discloses of a procedure for blowing off liquid from an object by using pulsating compressed air to dispel the liquid (abstract). This reference particularly teaches that this process is advantageously used in plating processes such as electroplating (page 5 of translation) to remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by incorporating the pulsed air process of EP '711 since it would have provided a means to remove and recover excess electrolytes on the surface of the article and also to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

Art Unit: 1753

7. Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 above, and further in view of U.S. patent No. 5,626,972 (Moysan '972) and U.S. patent No. 4,029,556 (Monaco); all of record and for the reasons of record.

The teachings of Moysan '874 and EP '711 have already been discussed. It is considered that claim 31 is identical in content to claim 4. Likewise claims claim 32 and claim 5 are held to be identical in content.

The differences not yet discussed are of: depositing a chrome film over a nickel film (instant claim 29) and depositing the refractory metal film on top of the chrome film (instant claim 30).

Moysan '972 discloses of plating both nickel and thereafter chromium (i.e., chrome) on an article prior to depositing the refractory metal constituents (see col. 1, lines 49-65 and lines 19-36).

Monaco discloses of a plating method wherein various form substrates are first coated with a nickel plating (col. 1, lines 10-14). Standard practice in the art further discloses of electrolytically depositing chromium over the nickel coatings to provide a tarnish resistance which is not only decorative but corrosion resistant (col. 1, lines 18-24). Although the invention of Monaco does not employ chromium (i.e., chrome) it clearly establishes that depositing chrome on a plated nickel film was at the time well known and provided the aforementioned advantages.

Art Unit: 1753

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by depositing chromium over the nickel layer and thereafter depositing the refractory metal comprising material as taught by Moysan '972 and Monaco since it is well known in the art in the formation of brass articles to first electrolytically deposit nickel, then chrome on top of the nickel plating prior to refractory metal deposition to provide an article of highly polished brass with wear and corrosion resistance protection.

8. Claim 10-13, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 above, and further in view of Moysan '972 and U.S. patent No. 5,558,759 (Pudem) and U.S. patent No. 4,273,837 (Coll-Palagos); all of record and for the reasons of record.

The teachings of Moysan '874 and EP '711 have already been discussed. It is considered that claim 31 is identical in content to claim 4. Likewise claims claim 32 and claim 5 are held to be identical in content.

Moysan '874 discloses of the refractory metal being zirconium (instant claims 12 and 13); if a zirconium nitride film deposited on the zirconium film (instant claims 18 and 20).

The differences not yet discussed are of: plating a copper film on a portion of an article's surface and subsequently plating a nickel layer on said copper layer and a chrome layer on said nickel layer (instant claim 10).

Art Unit: 1753

Pudem teaches of metal finishing processes wherein a first copper plating step is performed and thereafter, to form a brass finish, nickel and then chrome are plated (col. 10, lines 1-19). Coll-Palagos teaches that the use of copper as an intermediate plating metal between the article to be coated and the decorative and protective outer coatings is well known in the art since copper can be easily plated with decorative metals such as chromium (col. 4, lines 43-59 as applied to instant claim 10). Moysan '972 discloses of physical vapor depositing a refractory metal or refractory metal alloy on the chrome layer (instant claim 11).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by plating the multilayer structure first with a copper plating layer as suggested in the teachings of Pudem and Coll-Palagos since copper plating provides an adherent coating surface on a substrate to enhance the adherence of subsequently plated materials with the substrate. The combined structure would have improved the decorative and protective characteristics of the article of Moysan '874.

9. Claims 14-17, 19, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of Moysan '972, Monaco, as applied to claims above, and further in view of U.S. patent No. 5,922,478 (Welty); all of record and for the reasons of record.

The teachings of Moysan '874, Moysan '972, Monaco, and have already been discussed.

The difference not yet discussed is of depositing the claimed sandwich coating (instant claims 14 and 33) nor of depositing the particular films thereafter (instant claims 15-17, 19, and 32-36).

Art Unit: 1753

Welty discloses of coating an article with a nickel layer, chrome layer, a refractory metal layer (preferably zirconium), a sandwich layer comprised of a plurality of alternating layers of a refractory metal compound and a refractory metal compound layer (see abstract). Thereafter zirconium nitride film 32 and layer 34 of reaction products of a refractory metal or refractory metal alloy, oxygen and nitrogen or of a refractory metal oxide or refractory metal alloy oxide (col. 7, lines 8-13).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 with the alternating sandwich layers as taught by Welty since it would have provided wear resistance, corrosion protection, and acid resistance to the coated article.

Response to Arguments

10. Applicant's arguments filed March 28, 2000 have been fully considered but they are not persuasive. In particular:

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure,

Art Unit: 1753

such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant states that there is no motivation for combining the EP '711 reference with the other teachings. The examiner respectfully disagrees. EP '711 discloses of a procedure for blowing off liquid from an object by using pulsating compressed air to dispel the liquid (abstract). This reference particularly teaches that this process is advantageously used in plating processes such as electroplating (page 5 of translation) to remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

It is within the skill of the artisan to blow dry after electroplating the article surface because this would have removed any electrolyte solution remaining on the surface of the article and would have provided a dry surface for vapor deposition, thus eliminating electrolyte solution carry over.

Conclusion


11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 1753

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:30 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on (703) 308-3322. FAX communications should be sent to the appropriate FAX number: (703) 305-3599 for After Final Responses only; (703) 305-7718 for all other responses. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


NAM NGUYEN
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May 15, 2000